NUMERICAL FORMULÆ IN THE VEDA AND THEIR BEARING ON VEDIC CRITICISM.

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In view of the conflicting opinions that are current respecting the age of the eighth book of the Rig-Veda, every additional means of historical criticism becomes of value. Of possible bases of criticism two have attracted my attention. In reading the Kaṇva book, I have been struck by the noteworthy similarity in vocabulary and in numerical formulæ between the eighth book and those books which I may call "General Books," (i., ix., x.) in distinction from the other received "Family Books" (ii.–vii. ; the fourth book is perhaps the latest of the Family Books). The material for comparison from both points of view I have now collected ; but, as the examples of the vocabulary are not yet arranged, I offer at present only the coincidences in numbers found in the Kaṇva Book and General Books. The results from this point of view alone are of course not such as to be conclusive in any way; yet they furnish strong corroborative evidence of the view that sees in the Kaṇva-book a literary production which, in so far as we are enabled to discriminate in the matter of time, belongs rather to the later than to the earlier Vedic period. There are hymns in either division of the books when the latter are arranged in groups, that belong to the other division. This is a va sans dire of Vedic criticism. Yet the general character of the two groups is not such as to indicate that the body of hymns of one group in their present form is synchronous with with that of the other.

In respect of numerical formulæ, the evidence given by their use easily may be overestimated ; but, not less easily, this may be unjustly depreciated. For a numerical complex, when once received, naturally tends to assume a sacrosanct character, and perpetuates itself in the religious consciousness. Not that a holy number remains intact. Other factors come into play. Exaggerated laudation leads to multiplication in majorem gloriam.

Nevertheless, coincidences of numerical formulæ are to a certain extent indicative of a contemporary way of looking at things, and as such deserve to be reckoned as a factor in determining the age of a literary production. It is, for instance, possibly a mere coincidence that "the far distance" is spoken of in one group of books and that only in the other (later) group are found "the three far distances." The underlying idea of three spaces may be older than the expression that here conveys it ; but it certainly is significant that in the formulaic expression the Kanva book coincides with the later group ; while the significance is heightened by finding similar coincidences to be not unusual, but rather, considering how few are the fixed formulæ, the norm. While, therefore, I would not lay too much weight upon the following examples, I consider them provisionally as indicative of a close connection between the General Books and that attributed to the Kanvas.

The first example is the one already cited. In x. 95. 14 we find a plurality of "far distances" implied in *paramā́ parāvát ;* in i. 34. 7 and in the Atharva-Veda vi. 75. 3, the number is known as "three far distances." Elsewhere in the Rig-Veda this formula is unknown save in the Kanva-book, and there it occurs twice (viii. 5. 8 ; 32. 22).

This three is of course a number peculiarly holy. Accordingly it is here that we find most of the coincidences. Thus, the gods are grouped in threes in a certain expression that is used but twice, once in the first, once in the eighth book (*triṣu ā́ rocané divás,* i. 105. 5 ; viii. 69 (58). 3); the mystical "three dawns" are known only in viii. 41. 3 ; x. 67. 4 ; and *nírṛti,* used all through the Veda in the singular, occurs in the plural only in viii. 24. 24, and x. 114. 2 (here specified as three in number).

Again, the fixed expression *trivṛ́t,* occurring quite a number of times, is found in the Atharvan, but in RV. only in the Kanva and General Books : thus, i. 34. 9, 12 ; 47. 2; 118. 2 ; 140. 2 ; viii. 72 (61). 8 ; 85 (74). 8 ; ix. 86. 32 ; x. 52. 4 ; 114. 1 ; 124. 1 ; and in four or five hymns of the Atharva-Veda. This is a very good example, because *trivṛ́t* is a word thoroughly Brahmanic and classical, so that its history, if sketched in literature, would read "used as a common word in epic literature and legal *smṛtis ;* often employed in the Brahmanic period ; not rare in the AV.; found in RV. in the General Books and Kanva, but not traced so far back as the other Family Books."

The following examples of "three" may point to a closer connection with a late period. The expression *trisadhasthé barhíṣi* in i. 47. 4 is paralleled only by the similar *tridhā́tu barhís* of viii. 102 (91). 14 ; and by *tribarhíṣi sádasi* also in the first book, i. 181. 8. Indra's bolt is represented as a trident only in i. 121. 4* and viii. 72 (61). 8. It is only in viii. 2. 21 that Indra receives the laud which is elsewhere ascribed to Agni, that he is "born in three

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* *Trikakúbh* (Indra) in sense refers to three-forked lightning.

places." Cases of magic where "three" is employed in a mysterious occult manner, common in the Atharvan (e. g. AV. iv. 3. 1 ; 9. 8, etc.), occur in RV. only in the eighth and tenth books (viii. 91 (80). 5–7 ; x. 87. 10 ff.). The same growth in appreciation of esoteric wisdom, especially affected in the Brāhmaṇas, may perhaps be traced in the fact that "concealed" *padā́ni* are spoken of only in i. 164. 45 ; viii. 8. 23 ; x. 13. 3 (=AV. xviii. 3. 40, v. l.). The "three ages past" appear to be known in viii. 101 (90). 14=AV. x. 8. 3, and not elsewhere in the Rig-Veda.

Turning to the next holiest number, it is only in the eighth book of the Rig-Veda that *saptápada* occurs, withal in its late meaning, just as it is found in the Atharva-Veda (RV. viii. 72 (61). 16 ; AV. v. 11. 10); it is only in the eighth book that the "seven bottomed sea" is known, viii. 40. 5. Again, the "seven *raçmáyas* of the sun" are spoken of only in i. 105. 9 and viii. 72 (61). 16, although synonyms of *raçmáyas* are often found elsewhere, and Indra's seven *raçmáyas* are common. Ludwig, indeed, will not accept Sāyaṇa on i. 105. 9, when the latter says *saptasaṁkhyākā raçmayaḥ sūryasya* to explain *amī́ yé saptá raçmáyas tátrā me nā́bhir ā́tatā ;* but, with the remark "es ist uns jedoch von dergleichen nichts erinnerlich," refers the rays to Agni as the only possibility (v. 444); a subjective impression that is contradicted by *sū́ryasya saptá raçmíbhis* in viii. 72 (61). 16.

A very striking example of the differences between the Family and the General Books may be noticed in the number of *hotars.* These priests are of course mentioned a great many times. In distinction from the "seven seers," who by the way are late, the seven *víprās,* and the *kaváyas,* the *hotars,* when expressly counted, are reckoned either as five or as seven. In iii. 29. 14 we have a passage which on entirely different grounds is reckoned late, and here we find seven *hotars.* There is only one more passage in the Family Books, and this in the same third book, where the *hotars* are reckoned as seven, viz. : iii. 10. 4. On the other hand, they are elsewhere counted as five in the Family Books, while in books eight and ten, and possibly in the first book, they are counted as seven. The count of the Atharva-Veda also makes them seven. Thus, in RV. ii. 34. 14 ; v. 42. 1 we have distinctly only five *hotars ;* but, as in AV. iv. 24. 3, so in RV. i. 58. 7 (?); viii. 60 (49). 16 ; ix. 10. 7 ; 114. 3 ; x. 35. 10 ; 61. 1 ; 63. 7, there are as plainly seven *hotars,* and probably we should add to these viii. 72 (61). 7 ; ix. 10. 3 ; and x. 122. 4.* With this latter group goes the late iii. 29. 14 (the language alone of this hymn shows its lateness ; compare Lanman, Noun-inflection, p. 578).

I reckon as late, not early, coincidences with cis-Indic data, referable to Persian or Babylonian influence,† and among them

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* Ludwig, iii. 228, includes iii. 7. 7 (late?) as *hotars,* but these are *víprās,* not expressly *hotars.* I think AV. never mentions five *hotars.*
† On this topic, more in the next paper.

the name of the land as " Seven Rivers." The seven rivers are often referred to; but, as an equivalent of *hapta hendu,* this designation occurs only in viii. 24. 27, where it stands on a par with the one mention of Babylon's mintage, the " *manâ* of gold" of viii. 78 (67). 2. It is, again, only in the eighth book that we find designated fractions other than a half. In viii. 47. 17 *çaphá* is $\frac{1}{8}$ and *kalâ* is $\frac{1}{16}$.* So AV. vi. 46. 3 ; xix. 57. 1.

Before leaving the province of seven, I may add the fact that *saptámānuṣa* occurs only in viii. 39. 8, in respect of which I venture proleptically the following suggestion. Agni " of the seven peoples" may be meant, since it is difficult to see how *mānuṣa* can stand here for "priest." We may accept the explanation that seven means "many" (PW.), but another explanation is also possible. In a preceding paper† I have attempted to show that the "five tribes" cannot be the Puru-Yadu group with which the five are arbitrarily identified. I think the "five" refers to the five tribes whose respective family- or tribe-collections make the first Rig-Veda. Each tribe is identified with one special family of singers. Their output is represented by books ii.-iii., v.-vii. There were new tribes absorbed into the whole body of older Aryans. They too had each its priestly family. The first new one was the tribe represented in the collection by the hymns of the Gautamas, the fourth book. The next to come in were the Kaṇvas, who for a long time are regarded as more or less aliens. Apart from these distinctly family or tribal collections, containing some spontaneous and some ritualistic poetry, were the hymns not claimed by any family as exclusively theirs. Such were the few really old hymns of Soma, of death (with the Yama hymns), and of marriage. But such hymns were not numerous, and the later books consist chiefly of the new hymnology that belonged to a united people, settled in about the same region which they are to occupy for centuries. The "seven singers" (*ṛṣayas*), as fathers of the clan-priests, belong only to this later period (iv. 42. 8 ; ix. 92. 2 ; x. 82. 2; 114. 7 ; 130. 7). There were, then, before the Rik collection finally closed, seven families or tribes, each with its ancestral *ṛṣi,* and to this division refers the "Agni of the seven tribes" (*saptámānuṣa*) of the eighth book. The old nomenclature continues, however, just as the "seven rivers," after they become twenty-one, are still called "the seven," and even in the later period "the five families" (*jána, mánuṣa,* etc.) are retained.

The cardinal points, known in the Atharvan as ten, appear as ten in the Rik only in viii. 101 (90). 13, and, possibly, i. 164. 14. In regard to two of the most significant numerical formulæ, I have elsewhere compared the use of the General Books with that of the Kaṇvas ("The Holy Numbers of the Rig-Veda," in the *Oriental Studies* of the Philadelphia Oriental Club). The facts, briefly stated, are as follows. Several stereotyped groups of

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* In vii. 18. 15 *prakalǎvíd* is not technical.   † J.A.O.S. xv. 260.

seven, such as "seven gifts," "seven rivers," are raised by trebling to twenty-one ; just as, conversely, in the Atharvan the three bonds of Varuṇa are multiplied into the other sacred number and become twenty-one. There are in the Ṛik, outside of the group i, viii, ix, x, but two cases where is found this later multiplication of objects that were before holy enough without such aid ; and both of these exceptions refer to the same point, and are full of esoteric mystery : "they observed the first name of the cow ; they found the thrice-seven highest names of the mother" (iv. 1. 16); and "Varuṇa declared unto me, the wise one, that the not-to-be-slain one (viz., the cow) bears thrice seven names" (vii. 87. 4). There are "seven names of the cows" in i. 164. 3 ; and in each of these cases we have to do with the raising of the number from seven to thrice seven, for these cows were once identical with the other Indric sevens (the Maruts, the beams, etc.).

The further cases are as follows :

Seven is raised to thrice seven in i. 20. 7, where the gifts begged for as seven in the Family Books (v. 1. 5 ; vi. 74. 1)* are now twenty-one. The "seven secret places" (*padá*) of Agni are in i. 72. 6 raised to thrice seven ; and in a mystic hymn of the same book, i. 191. 12–14, we find mentioned "the three times seven *vispuliṅgakās*, and thrice seven peahens (Maruts)." In all the Family Books (with the exceptions just mentioned) there are no mystic thrice sevens. But in viii. 69 (58). 7 the Maruts appear again as thrice seven ; and in viii. 96 (85). 2 Indra's seven strongholds, familiar from other parts of the work, suddenly appear as "thrice seven mountain-tops" destroyed by Indra.† Other instances are all from books nine and ten : "Thrice seven cows milk for him," in ix. 70. 1 ; and again "thrice seven cows" are opposed to "seven cows" (streams) in ix. 86. 21, 25. In the tenth book are "the thrice seven streams" and "thrice seven wood-piles," x. 64. 8 ; 90. 15.

Moreover, a certain increase, even of the old method of multiplying holiness, may be observed in the *tríḥ saptá saptatīnám* ($3 \times 7 \times 70$) of viii. 46. 26 ; while in viii. 19. 37 we find "three seventies." Once more, it is to be noticed that it is only in viii. 96 (85). 8 that the Maruts are raised to "thrice sixty."‡ The Atharvan use of "thrice seven beings" is found in the Ṛik only at i. 133. 6 and Vāl. 11. 5, a Kaṇva verse.

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* Compare v. 52. 17 ; *saptá me saptá - - ékam-ekā çatá dadus* in a gift-laud.

† Bergaigne, *La Religion Védique*, ii. 122, takes viii. 96. 2 and i. 72. 6 as referring to "worlds." But these are thrice seven only in still later literature. Compare viii. 7. 34 for sense. So later the seven hells become twenty-one. In iv. 19. 3 and ix. 54. 2, the *saptá pravátas* may be hills. Seven fortresses are mentioned in vi. 20. 10 ; vii. 18. 13 (Family Books).

‡ Not "sixty-three" (*tríḥ ṣaṣṭis*).

Not less interesting is the raising of the number of the original ten gods (as I think I have shown their original number to be, l. c.) to thrice eleven.* In Vāl. 9. 2 and ix. 92. 4, as in the late passage i. 34. 11, all the gods are included in this number. In iii. 6. 9 we find the only exception to the rule that the thrice eleven are confined to Kaṇva and General Books. For the Kaṇva book compare viii. 28. 1 ; 30. 2 ; 35. 3 ; 39. 9. In i. 139. 11 (compare x. 65. 9) the three elevens are distributed over heaven, earth, and waters. Without division they are mentioned in i. 34. 11 ; 45. 2. The exception in iii. 6. 9 may possibly be only a further example of the case in hand: that is, a late verse; for here the gods are mentioned *pátnīvantas* 'accompanied with their wives,' an expression which occurs in regard to gods only here and i. 72. 5 ; iv. 56. 4 ; viii. 28. 2 ; 93 (82). 22. But the fourth book is almost as late as the eighth.

Characteristic also of the eighth book is the fact that only here is there found a Dvita invented to go with the ancient Trita (as later still Ekata goes with both), viii. 47. 16. We have in all this the same later raising of gods as that which we see again in AV. xi. 5. 2 (thousands of Gandharvas) ; and TS. v. 5. 2. 5 ff. where the old Vasus are raised to 333 ; or, better still, ib. i. 4. 11. 1, where the eleven Rudras are made thirty-three.†

I might add to these a rather remarkable fact in connection with Schmidt's theory of the duodecimal system : viz., that sixty, alone or in composition, occurs in Family Books only in the 60,000 men slain by Indra at vi. 26. 6, and in the Battle of the Ten Kings, vii. 18. 14. But it is not infrequent in the other group. In viii. 96 (85). 8 we have 3×60 (above); in i. 53. 9 there are 60099 slain by Indra; in i. 126. 3, we find 60,000 kine ; in viii. 4. 20, the same ; ib. 46. 29, the same ; ib. 22, 60,000 horses ; all these passages being gift-lauds ; and in ix. 97. 53 there are 60,000 good things.

A few more cases remain. Only in iv. 26. 7 and in the eighth book have we *ayúta*=10,000 (viii. 1. 5; 34. 15 ; and gift-lauds, ib. 2. 41 ; 21. 18 ; 46. 22). In the eighth and tenth books appears generally the greatest extravagance in gift-lauds (e. g. viii. 5. 37 ; 46. 22 ; 2. 41 ; x. 62. 8). But in vi. 63. 10 hundreds and thousands of horses are acknowledged as baksheesh !

The "double one," *dvayú,* is found only in viii. 18. 14, 15 ; ix. 104. 6 ; 105. 6 ; *dvīpá,* 'island,' only in i. 169. 3 ; viii. 20. 4. The old "pair" of horses is replaced by a spike-team : i. e. horses with a leader (*pŕṣatīs + prāstís*), only in i. 39. 6 ; 100. 17 ; viii. 7. 28, and a gift-laud in vi. 47. 24. The later "four names" of Indra occur in the Rik only in x. 54. 4 and viii. 80 (69). 9. Elsewhere the four are unknown, although familiar to the Brahmanic

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* That is, at first, "ten with one added" as *e'kaçatam*=100, loc. cit., p. 152. Compare RV. x. 85. 45.

† The 3339 gods of iii. 9. 9 really belong only in x. 52. 6. The still later group of thirty-five gods has been discussed by me, loc. cit., p. 153. It is found i. 162. 18 and x. 27. 15, 16.

age (see Ludwig's citations). In viii. 80. 9 the fourth name is taken as a matter of course. Compare the Kaṇva verse Vāl. 4. 7, where Indra is the fourth Āditya, another late idea.

These numerical coincidences will be found to be paralleled by the vocabulary of the poets of the General Books and Kaṇvas respectively, in regard to which I hope to read a paper at the next meeting.*

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* For previous estimates of the age of the Kaṇva book, see Zimmer, *Altindisches Leben*, p. 355 ; Lanman, J.A.O.S., X. 580 ; Brunnhofer, KZ., 1880 ; Iran und Turan, Preface.